

## 2.—New Western Australian Species of *Thysanotus* R. Br. (Liliaceae)

By N. H. Brittan\*

Manuscript received 18th August, 1959

Eight new species of *Thysanotus* R. Br., *T. formosus*, *T. vernalis*, *T. rectantherus*, *T. pseudojunceus*, *T. brevifolius*, *T. arenarius*, *T. spiniger*, *T. cymosus*, from the south-west of Western Australia are described and illustrated. All belong to the section of the genus characterised by the possession of six stamens.

In the course of collecting material for a study of the genus *Thysanotus* R. Br. the eight Western Australian species described in this paper have been recognised.

The specific diagnoses are in each case based on the collection rather than referring specifically to the holotype.

The districts referred to in giving details of localities are the botanical districts of Diels as published in "Die Vegetation der Erde" VII, 1903. Since there is some variation in the spelling of place names and topographical features, the usage as found in the series of 4 mile/inch Military Survey maps has been adopted as the standard.

(i) ***Thysanotus formosus*** N. H. Brittan sp. nov.  
*Holotype*.—26 miles W. of Nannup, N. H. Brittan. 12744m-1,26.i.1953 (PERTH)

*Herba* perennis, fibrae radicales fasciculatae prope basin tuberosae. *Folia* 3-4, 40 cm longa, teres, glauca, basi canaliculata membranacea dilatata, bractae radicales 2-3, membranaceae 5-8 cm longae. *Scapus* erectus 30 cm longus, umbellae 4-5, sessilae vel pedunculatae brevissimae, a specimine luxuriae umbellae in paniculam corymbosam dispositae. *Umbellae* 2-3-floris solitariae raro duo, terminalis, bractae plurae 5-7 mm longae, acuto-lanceolatae, pallide purpurea, membranaceo. *Pedicellae* erectae 2-2.5 cm longae, infra mediam articulatae. *Flores* ut in genere, tepales exteriores 19 mm longae, lineari-lanceolatae, mucronatae; tepales interiores ellipticae, fimbriatae. *Stamina* 6, antherae e filamentae atropurpurea: tria antherae exteriorae strictae, contortae, 4 mm longae, filamentis aequalae: tria antherae interiorae curvatis, contortae, 10 mm longae, filamentis duplo longioribus. *Ovarium* subglobosum: stylus strictus 10 mm longus. *Capsula* oblonga 6-7 x 4-5 mm. *Semina* 1.5 x 1.0 mm nigra arillis flavis.

Perennial, small rootstock, roots horizontal, tuberous, thickening towards base. *Leaves* 3-4, 40 cm long, terete, glaucous, channelled with membranous wings at the base, 2-3 short membranous bracts outside the leaves. *Scapes* simple, ca. 30 cm tall bearing 4-5 sessile to shortly stalked umbels, in luxuriant specimens the scape becomes paniculately branched. *Umbels* 2-3 flowered, solitary or rarely in twos, bracts several 5-7 mm, lanceolate with wide membranous margins, pale purple. *Pedicels* 2-2.5 cm articulate below the middle, erect in fruit. *Flowers* as in the genus, outer tepals 19 mm linear-lanceolate, mucronate; inner

tepals elliptical, fimbriate. *Stamens* 6, anthers and filaments dark purple, 3 outer anthers straight, twisted, anthers and filaments 4 mm; 3 inner anthers curved, twisted 10 mm filaments 5 mm. *Ovary* subglobose, style straight 10 mm. *Capsule* cylindrical 6-7 x 4-5 mm. *Seeds* 1.5 x 1.0 mm black with yellow aril.

Distinguished from other species by its large flowers, borne in sessile umbels most frequently in a spike and by the horizontal nature of the root system.

*Type locality*.—26 miles W. of Nannup.

*Syntypes*.—26 miles W. of Nannup, N. H. Brittan 12744m, 26.i.1953—2 sheets.

The holotype 12744m.—1 (Fig. 1 and Plate I) will be lodged at the Herbarium, Department of Agriculture, Perth; material from the other sheet will be distributed to the Herbaria at Royal Botanic Gardens, Kew and the Royal Botanic Gardens, Melbourne, for permanent retention.

(ii) ***Thysanotus vernalis*** N. H. Brittan sp. nov.

*Holotype*.—S. of Mt. Lesueur, N. H. Brittan 55/27, 2.x.1955 (K)

*Herba* perennis, fibrae radicales fasciculatae, tuberosae, glabrae. *Folia* radicalia 1-2, circa 10-25 cm longa, canaliculata, acuta, tuberculato-marginata, ad basin expansa in alata membranacea. *Scapus* 1-2, 14-35 mm longus, teres, glaber, nudus, ad dimidio superne dichotomum ramosum. *Bractae* ad nodos, acutae, 7-8 mm longae, prope basin ad 3-4 mm ad apicem. *Ramosis* ultimis 1-2 cm longis, umbellae solis desinis, bractae acutae, fuscae venosae, membranaceo-marginatae, 3 mm longae. *Umbellae* 2-5 floris, pedicellis tenuis, prope basin articulatis, 4-5 mm longis, erectis vel cernuis. *Perianthum*: tepales exteriores 10 mm longae angusto-lanceolatae, anguste membranaceo-marginatae, mucronulatae: tepales interiores ellipticae, fimbriatae. *Stamina* 6, purpurea vel flava, tria antherae exteriores 2.5-3 mm longae, rectae, contortae: tria antherae interiores 4 mm longae, rectae, contortae. *Ovarium* globulum sessile, stylus erectus 3.5 mm longus.

Perennial, roots clustered, tuberous, glabrous. *Radical leaves* 1 or 2, 10-25 cm long, channelled, acute, tuberculate margined, expanding at the base into membranous wings. *Scapes* 1 or 2, 14-35 cm long, terete, glabrous, naked, branched dichotomously in the upper half. *Bracts* at nodes acute, 7-8 mm long at the base to 3-4 mm long at the apex. Final branches 1-2 cm long terminating in a single umbel, bracts acute, dark veined, membranous-edged, 3 mm long. *Umbels* 2-5 flowered, pedicels thin, articulated near the base, 4-5 mm long, erect to bending downwards in fruit. *Perianth* as in genus, outer tepals 10 mm long, narrow-lanceolate with narrow membranous margins, mucronulate: inner tepals elliptical, with long fimbriate margins. *Stamens* 6, purple-yellow, outer anthers 2.5-3 mm long, straight, twisted: inner anthers 4 mm

\* Department of Botany, University of Western Australia, Nedlands, Western Australia.

long, straight, twisted, lower lobes cordate. *Ovary* globular, sessile, style straight, 3.5 mm long.

Distinguished from other tuberous rooted species by its open, dichotomously branched inflorescence and by the possession of straight, not curved anthers almost equal in length.

*Type locality*.—Region about Mt. Lesueur, S. of Irwin District, W.A. in sand plain vegetation on sandy loam or clay soils.

*Syntypes*: S. of Mt. Lesueur N. H. Brittan 55/27 2.x.1955 (2 sheets).

The holotype (Fig. 2) is in the Herbarium, Royal Botanic Gardens, Kew. The other sheet (Plate II) will be lodged in the Herbarium, Department of Agriculture, Perth.

(iii) *Thysanotus rectantherus* N. H. Brittan sp. nov.

*Holotype*: 15 miles S. of Kulin, N. H. Brittan 54/23-1, 6.xi.1954 (PERTH).

*Herba* perennis, rhizoma brevis, recta. *Radices* fibrosae haud tuberosae. *Folia* radicalia 2-3, 20-30 cm longa, plana, glabra, ad basin membranaceo marginata, 2-3 bractis membranaceis latis acutis circumdatis.

*Inflorescentia* paniculata circa 14-17 cm longa, *scapum* glabrum, teres, bractae angustae, acutae, membranaceo-marginatae. *Umbellae* terminalis 1-2 floris, bractae angustae deltoidae circa 3 mm longae. *Pedicellae* in floris sensim dilatatae, articulo infra medium. *Tepales* exteriores 11 mm longae angustae-lanceolatae, acutae, membranaceo-marginatae: tepales interiores ellipticae anguste fimbriatae. *Stamina* 6 aequalia, antherae 5.5-6 mm longae, atropurpureae, vix curvatae haud contortae, filamentis 2 mm longis, 0.75 mm supra antherae insertis, loculis basalis acutis. *Ovarium* subcylindricum, sessile, stylus 6 mm longus, rectus, apice excepto. *Capsulam* maturam et semina haud video.

Perennial, short erect rootstock, fibrous roots without tubers. *Leaves* 2-3 radical, 20-30 cm long, flat, glabrous, expanded into membranous wings at the base, surrounded by 2-3 broad scarious bracts ending in acute points. *Inflorescence* paniculate, ca. 14-17 cm tall, *scape* glabrous terete, *bracts* narrow-acute with membranous margins. *Umbels* terminal 1-2 flowered, bracts narrow-deltoid, ca. 3 mm long. *Pedicels* expanding imperceptibly into the flower, articulated just below the middle. *Outer tepals* narrow-lanceolate, acute, with membranous margins, 11 mm long: inner tepals elliptical with narrow fringe. *Stamens* 6 equal, anthers 5.5-6 mm long, dark purple, slightly curved not twisted, filaments 2 mm inserted 0.75 mm from the base of the anthers, basal projections of the loculi acute. *Ovary* subcylindrical, sessile, style 6 mm long, straight, except at the apex. *Ripe capsule* and seeds not seen.

Superficially resembles some of the tuberous rooted species, e.g., *T. thyrsoideus*, but is distinguished by the leaves twice as long as the scape, by the possession of six equal and erect anthers and the very narrow fringe to the inner perianth segments.

*Type locality*.—S. of Kulin, Stirling District, W.A.

*Syntypes*.—15 miles S. of Kulin, in lateritic sand, N. H. Brittan 54/23, 6.xi.1954. (2 sheets). The holotype (Fig. 3 and Plate III) will be lodged in the Herbarium, Department of Agriculture, Perth, the other sheet is in the Herbarium, Royal Botanic Gardens, Kew.

(iv) *Thysanotus pseudojunceus* N. H. Brittan sp. nov.

*Holotype*: N. of Nannarup, W.A. N. H. Brittan 56/3-2, 5.xi.1956 (PERTH).

*Herba* perennis, rhizoma parva vel nulla, fibrae radicales fasciculatae, gracillimae haud tuberosae. *Folia* nulla, bractae radicales 2-3 circa 8-10 mm longae, acutae, membranaceo-marginatae, purpureae. *Caules* teres, ad basin purpureae 30-36 cm longae, plantae juvenissimae ramosae dichotomum, annosae ramosae monopodiale: bractae steriliae, acutae, fuscae, 4-5 mm longae, ramis horizontaliter ad basin vel erectis. *Umbellae* terminalae, pedunculatae, 2-4 floris, bractae 2-2.5 mm longae, acutae. *Pedicellae* 8-9 mm longae adscendentiae vel cernuae, articulatae prope basin. *Perianthum* ut in genere, tepales exteriores 10-12 mm longae, lanceolatae, mucronatae, anguste membranaceo-marginatae, atro-purpureus supra et infra: tepales interiores ellipticae, fimbriatae. *Stamina* 6: tria antherae exteriores 3 mm longae, luteae vel purpureae ad basin, contortae, ad latus ventras inferne squamatae: tria antherae interiores 6 mm longae, pallido-purpureae, curvatae, contortae. *Ovarium* cylindricum sessile, stylus curvatus 7 mm longus. *Capsula* cylindrica 5-6 x 3 mm periantho persistens turgido inclusa.

Perennial, little or no rootstock, roots clustered, fine, not tuberous. *Leaves* nil, 2-3 bracts at base of stems ca. 8-10 mm long, acute, membranous margined, purple. *Stems* terete, purple at the base green above 30-36 cm long, first branches branching dichotomously, subsequent seasons monopodially branched: barren bracts usually not less than 5 cm from rootstock, dark, acute, 4-5 cm long, branches horizontal then curving into erect position. *Umbels* pedunculate, terminal, 2-4 flowered, bracts 2-2.5 mm long, acute. *Pedicels* 8-9 mm long, recurved in fruit, articulated close to base. *Perianth* as in genus, outer tepals 10-12 mm lanceolate, mucronate, with narrow membranous margins, dark purple above and below: inner tepals elliptical, fringed. *Stamens* 6: 3 outer anthers 3 mm long, yellow with purplish base, twisted, with scales on lower outer surface: 3 inner anthers 6 mm long, pale purple, twisted, curved. *Ovary* cylindrical, sessile, style curved 7 mm long. *Capsule* cylindrical 5-6 x 3 mm, enclosed in persistent turgid perianth.

The only Western Australian species with the branches horizontal at the base and then ascending. Also distinguished by the purple colour of the outer tepals in the bud stage.

*Type locality*.—Coastal heaths on peaty sand N. of Nannarup, W.A.

*Syntypes*.—N. of Nannarup, ca. 12 miles NE. of Albany, N. H. Brittan 56/3, 5.xi.1956 (6 sheets). The holotype 56/3-2 (Fig. 4 and Plate IV) will be deposited in the Herbarium, Department of Agriculture, Perth, sheet 56/3-4 is

in the Herbarium, Royal Botanic Gardens, Kew, another sheet will be deposited in the Herbarium, Royal Botanic Gardens, Melbourne. The remainder will be housed in the Herbarium, Botany Department, University of Western Australia.

*Other specimens.*—7 miles W. of Albany, N. H. Brittan 14/2, 14.xii.1950; 5 miles E. of Alexandra Bridge, Blackwood River, N. H. Brittan 59/11, 8.i.1959, both in Herbarium, Botany Department, University of Western Australia.

(v) ***Thysanotus brevifolius*** N. H. Brittan sp. nov.  
*Holotype.*—32 miles N. of Albany, N. H. Brittan 58/32-4, 3.xi.1958 (PERTH).

*Rhizoma* parva, fibrae radicales haud tuberosae. *Folia* radicalia plura circa 20-25, 8 cm longa, glabra, angusta, complanata apice hebesce, bractae membranaceae latae ad apicem acutae circumdatae. *Scapum* 18-24 cm longum, teres, glabrum, bracta sterilis una circa 4 cm apicem inferne infrequentibus. *Inflorescentia* multiflora, circa 20-50 floris. *Umbella* una, bractae circa 5 mm longae, late cuneatae, exteriores virides, anguste membranaceo-marginatae; interiores plerumque membranaceae. *Pedicellae* circa 8-10 mm longae. *Perianthum*: tepales exteriores 6-7 mm longae, 2 mm latae, late membranaceo-marginatae, tepales interiores ellipticae, fimbriatae. *Stamina* 6: tria antherae exteriores 2.5 mm longae, tria interiores 4 mm longae, loculis ad basin eminentibus, apice semicircularis. *Ovarium* cylindricum, stylus rectus, ad apicem anguste obconicus brevibus trilobatus. *Capsulam* maturam et semina haud video.

Plant with small rootstock with fibrous roots. Radical leaves several, ca. 20-25, up to ca. 8 cm long, glabrous, narrow, flat with blunt apex, surrounded by broad membranous bracts with acute apices. *Scape* terete, glabrous, 18-24 cm tall, rarely with single sterile bract some 4 cm below the apex. *Inflorescence* many flowered, ca. 20-50 flowered, *umbel* one, bracts broadly cuneate ca. 5 mm long, outer ones green with narrow membranous margins, inner ones largely membranous. *Pedicels* ca. 8-10 mm long. *Perianth*: outer tepals 6-7 mm long, ca. 2 mm broad with broad membranous margins; inner tepals elliptical, fringed. *Stamens* 6: outer three 2.5 mm long, inner three 4 mm long, with short projecting lobes at the base, rounded apex. *Ovary* cylindrical, style straight, narrow obconic at the apex, shortly trilobate. Ripe capsule and seed not seen.

Differs from *T. glaucus* in its single multi-flowered umbel, flowers with six stamens and the possession of some tuberous roots.

*Type locality.*—South Stirling sand plain, Stirling District.

*Syntypes.*—South Stirling sand plain, 32 miles N. of Albany, N. H. Brittan 58/32, 3.xi.1958 (6 sheets). The holotype 58/32-4 (Fig. 5, nos. 3 and 4) will be deposited in the Herbarium, Department of Agriculture, Perth, sheet 58/32-2 (Plate V) will be deposited in the Herbarium, Royal Botanic Gardens, Kew, sheet 58/32-3 will be deposited in the Herbarium, Royal Botanic Gardens, Melbourne. The remainder will be housed in the Botany Department, University of W.A.

*Other specimens.*—Moist valleys, Stirling R. F. Mueller s.d. (Fig. 5, No. 1). Source of Blackwood River, Cronin s.n. 1889 (Fig. 5, No. 2) (MEL).

(vi) ***Thysanotus arenarius*** N. H. Brittan sp. nov.  
*Holotype.*—Cape Naturaliste, N. H. Brittan 20/5, 20.xii.1950 (PERTH).

*Herba* perennis, rhizoma brevissime, fibrae radicales paucae, crassae, haud tuberosae. *Folia* radicalia tempore florationis praesentia (viridis), 23 cm longa, plana, paucis ciliis marginata. *Caules* 50-70 cm longae aut longiores, rigidae, teres, striatae, ad basin hirsutae cum pilis brevibus patentibus vel glabrae superne raro totum glabrae: ramosae monopodiales, ramulis strictis, adscendentibus. *Umbellae* terminales, 2- raro 3- floris. *Bractae* membranaceae, acuminatae 3 mm longae. *Pedicellae* circa 10 mm longae, prope basin articulatae, erectae vel cernuae. *Flores* ut in genere: tepales exteriores circa 15 mm longae, anguste linearae, 2 mm latae, mucronatae; tepales interiores ellipticae, fimbriatae. *Stamina* 6, declinata: tria antherae exteriores 5.5 mm longae, strictae, parum curvatae; tria antherae interiores 9 mm longae, curvatae, contortae. *Ovarium* subglobosum, sessile, stylus 11 mm longus, curvatus, declinatus. *Capsula* cylindrica 5 mm longa, perianthum laxo adhaerens inferne. *Caules* ad nodos inferiores radicosae.

Perennial, short rootstock, roots few, thick, not tuberous. *Leaves* present at time of flowering, up to 23 cm long, flat, sparsely ciliate margined. *Stems* 50-70 cm or longer, stiff, terete, striate, ridges hirsute towards the base with short patent hairs, tending to be glabrous above, occasionally whole plant glabrous; branching monopodially, branches simple ascending. *Umbels* terminal, usually 2 occasionally 3 flowered. *Bracts* acuminate, membranous, 3 mm long. *Pedicels* ca. 10 mm long, articulated near the base, recurved in fruit. *Flowers* as in the genus: outer tepals ca. 15 mm long, narrow-linear, 2 mm wide, mucronate; inner tepals elliptical, fimbriate. *Stamens* 6, declinate: 3 outer anthers 5.5 mm long, straight to slightly curved; 3 inner anthers 9 mm long, curved and twisted. *Ovary* subglobose, sessile, style 11 mm long, curved, declinate. *Capsule* cylindrical, 5 mm long, the persistent perianth remaining adherent above, splitting round the capsule. *Stems* tending to root at nodes.

Differs from *T. dichotomus* in the monopodial branching, hirsute ridged stems and lack of large rhizome. It is the only W.A. species which shows the tendency to produce vegetative buds in the lower axils of the stems.

*Type locality.*—Geographe Bay, N. Warren district, on coastal sand with *Agonis flexuosa*.

*Syntypes.*—Cape Naturaliste, N. H. Brittan 20/5, 20.xii.1950 (Fig. 6, No. 1, and Plate VI) will be deposited in the Herbarium, Department of Agriculture, Perth: Busselton, N. H. Brittan 20/1, 20.xii.1950 is in the Herbarium, Royal Botanic Gardens, Kew: 4 miles S. of Mandurah, N. H. Brittan 55/36, 5.xii.1955 (Fig. 6, Nos. 2 and 3) will be deposited in the Herbarium, Royal Botanic Gardens, Melbourne.

*Other Specimens.*—Mt. Eliza, Perth, W.A.: L. Preiss, 1564, 2.x.1839 (CP, LD, LE., MEL, S)—all these specimens have been incorrectly attributed to *T. anceps* Lindl. (Lehmann, *Plantae Preissianae*, ii.37 1846): Shark Bay to Murchison River, F. Mueller s.n. Oct. 1877: Greenough River, F. Mueller s.n. Nov. 1877 (MEL): Claremont, W.A. Andrews, 999, 29.xii.1901 (BM): North of Muchea, N. H. Brittan 52/65, 30.xi.1952: Salt River, N. H. Brittan 58/30, 2.xi.1958: N. of Scott River, N. H. Brittan 59/6, 7.i.1959 in Herbarium, Botany Department, University of W.A.

(vii) *Thysanotus spiniger* N. H. Brittan sp. nov. *Holotype*: Hill River, N. H. Brittan 52/39, 24.ix.1952 (vegetative) and Botany Department experimental garden, N. H. Brittan 58/39, 8.xi.1958 (flowers) (PERTH).

*Herba* perennis, rhizoma crassa brevis, fibrae radicales fasciculatae, elongatae, haud tuberosae. *Folia* plura ante florationis marcescentia, circa 15 cm longa, complanata, marginis et dorsum brevis hirsutibus. *Caules* vel 40 cm longae, rigidae, teres, nudaе, sulcatae, pilis brevibus paulum recurvatis hirsutibus; copiose ramosus, ramis brevibus dichotomose ramosus, ramulis ultimis in aculeis brevibus terminibus. *Bractae* inferne folioides, ciliato-marginatae, bractae superne breves, acutae. *Umbellae* 1-2 floris, bractae breves deltoideae. *Perianthum*: tepales exteriores late lineari-lanceolatae, mucronatae, anguste membranaceo-marginatae, circa 13 mm longae, 3 mm latae; tepales interiores ellipticae, fimbriatae. *Stamina* 6, antherae aequales, 8 mm longae, rectae haud contortae, stylus adversus declinatus. *Ovarium* subglobosum, stylus curvatus. *Capsulam* maturam et semina haud video.

Perennial, short thick rhizome, roots clustered, long not tuberous. *Leaves* flattened, several per shoot at the start of the growing season, up to 15 cm long, shortly hirsute on margins and on ridges on the back, dying before flowering period. *Shoots* stiff, up to 40 cm tall, naked, terete, ridged, with short, somewhat recurved hairs on the ridges; copiously branched, side branches short and branched again dichotomously, final branches terminating in a short prickly-like cone. Lower bracts leaf-like, ciliate margined, upper ones short, acute. *Umbels* 1-2 flowered, bracts short, deltoideae. *Perianth*: outer tepals broadly linear-lanceolate mucronate, with narrow membranous margins, ca. 13 mm long, 3 mm wide; inner tepals elliptical, fimbriate. *Stamens* 6, equal, anthers 8 mm long, straight not twisted, declinate opposite to the style. *Ovary* subglobose, style curved. Ripe capsule and seed not seen.

Differs from *T. dichotomus* in its more rigid habit, the semi-pungent ends of the branches not bearing flowers and the six, straight equal length anthers.

*Type locality.*—Hill River area, N.W. Avon District.

*Holotype.*—Hill River, N. H. Brittan 52/39, 24.ix.1952, flowers from plant cultivated in experimental garden of Botany Department, University of W.A., N. H. Brittan 58/39, 18.xi.1958 (Fig. 7, Nos. 2, 3, and 4 and Plate VII) will

be deposited in the Herbarium, Department of Agriculture, Perth.

*Other specimen:* Nr. Mogumber, N. H. Brittan 55/13, 24.ix.1955 in Herbarium, Botany Department, University of W.A.

(viii) *Thysanotus cymosus* N. H. Brittan sp. nov. *Holotype.*—30 miles S. of Kulin, N. H. Brittan 58/22-1, 27.x.1958 (PERTH).

*Herba* perennis?. *Fibrae* radicales fasciculatae, tuberae ad 5-7 cm ab caule productae. *Caulis* vaginis foliis vetustis circumdatis. *Folia* 2-3, teres, glaber, 20-30 cm longa. *Scapum* haud ramosum ad 20-25 cm, inflorescentia cymosa superne ferens. *Umbellae* terminales, bractis circa 4 mm longis, deltoideis, latis membranaceo-marginatis circumdatis. *Umbellae* 4-6 floris, pedicellis 10 mm longis, erectis vel cernuis. *Perianthum*: tepales exteriores 9-10 mm longae, lineariae, 1.5 mm latae, 5-venosae, breviter mucronatae; tepales interiores 8-9 mm longae, ellipticae, fimbriatae. *Stamina* 6, antherae inaequales, rectae haud contortae: tria interiorae 4.5 mm longae; tria exteriorae 3 mm longae; filamenta 1.5 mm longae. *Ovarium* sessile, globosum-subcylindricum. *Stylus* strictus 4 mm longus. *Capsulam* maturam haud video.

Perennial herb?. *Roots* fibrous with few elliptical tubers some 5-7 cm from the stock. *Stock* surrounded by leaf sheaths of old leaves. *Leaves* 2-3, terete, glabrous, 20-30 cm long. *Scape* simple to 20-25 cm, bearing a cymose inflorescence. *Umbels* terminal, enclosed within deltoide bracts ca. 4 mm long with wide membranous margins. *Umbels* 4-6 flowered, pedicels 10 mm long, becoming reflexed in fruit. *Outer perianth* 9-10 mm long, linear, 1.5 mm wide, terminating in a short mucrone, 5-veined; inner perianth 8-9 mm long, central part elliptical with fringe some 4 mm wide. *Stamens* 6, anthers unequal, straight not twisted; three outer 3 mm long, three inner 4.5 mm long, filaments 1.5 mm long. *Ovary* sessile, spherical-subcylindrical. *Style* straight, 4 mm long. Ripe capsule not seen.

Its affinities appear to be with *T. scaber* from which it can be distinguished by the glabrous leaves and the open cymose inflorescence.

*Type locality.*—Sand plain between Kulin and Lake Grace, W.A.

*Syntypes.*—30 miles S. of Kulin in sand plain heath vegetation, N. H. Brittan 58/22, 27.x.1958 (2 sheets). The holotype 58/22-1 (Fig 8 and Plate VIII) will be deposited in the Herbarium, Department of Agriculture, Perth and 58/22-2 will be deposited in the Herbarium, Royal Botanic Gardens, Kew.

*Other specimen.*—Ongerup-Borden in low heath vegetation, N. H. Brittan 58/23, 28.x.1958 in Herbarium, Botany Department, University of W.A.

#### Acknowledgments

The author wishes to express his gratitude to Dr. R. Melville of the Herbarium, Royal Botanic Gardens, Kew, with whom he had helpful discussions while working at Kew in 1957, and to Mr. P. R. C. Weaver of the University of Western Australia for assistance with the Latin diagnoses.

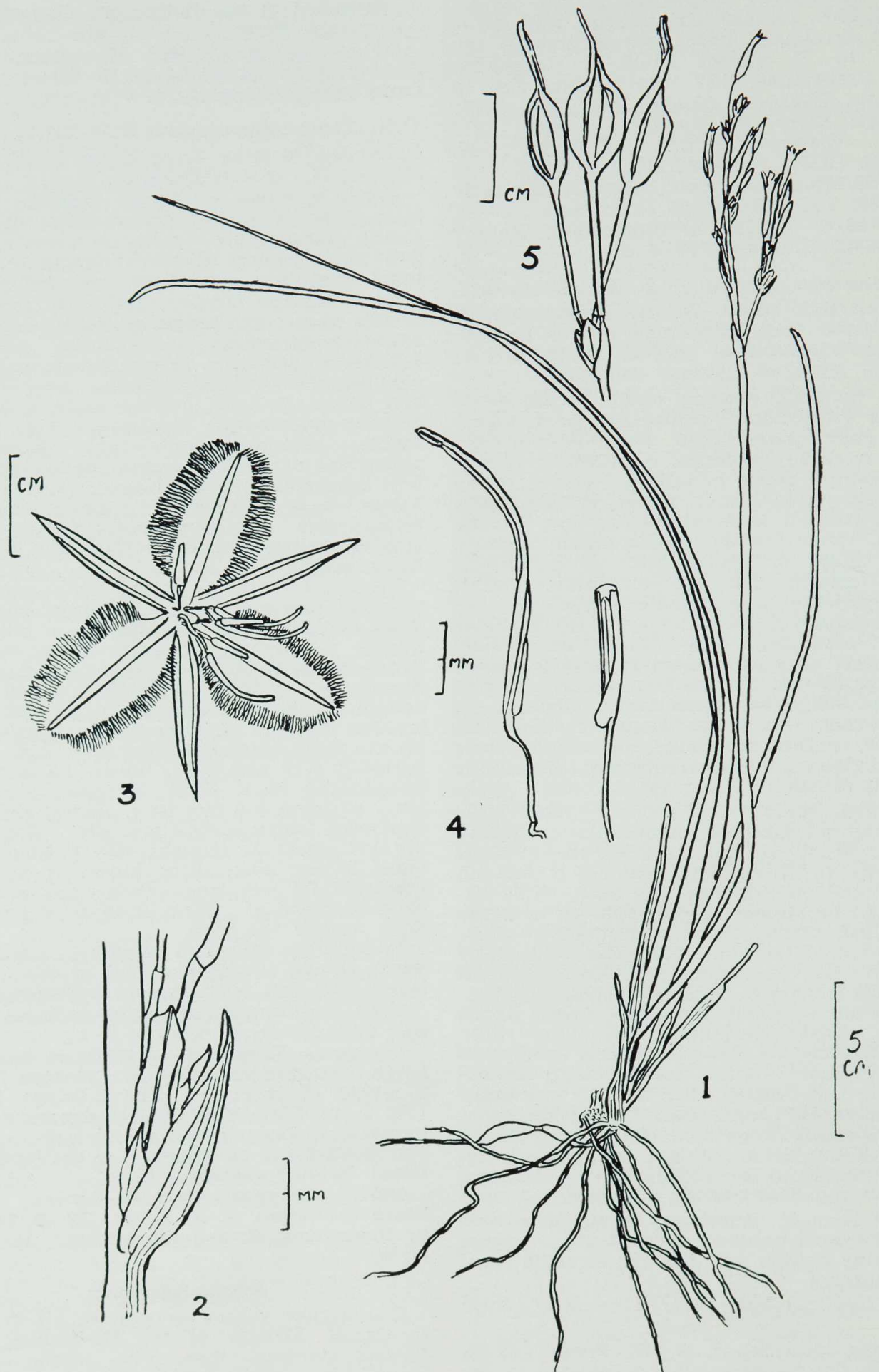


Fig. 1.—*Thysanotus formosus* N. H. Brittan.

1.—Whole plant. 2.—Detail of sessile umbel. 3.—Flower. 4.—Detail of stamens. 5.—Umbel with capsules. 1-4 inclusive from holotype. 5.—from collection (locality unspecified) Wellstead 1900 (K).

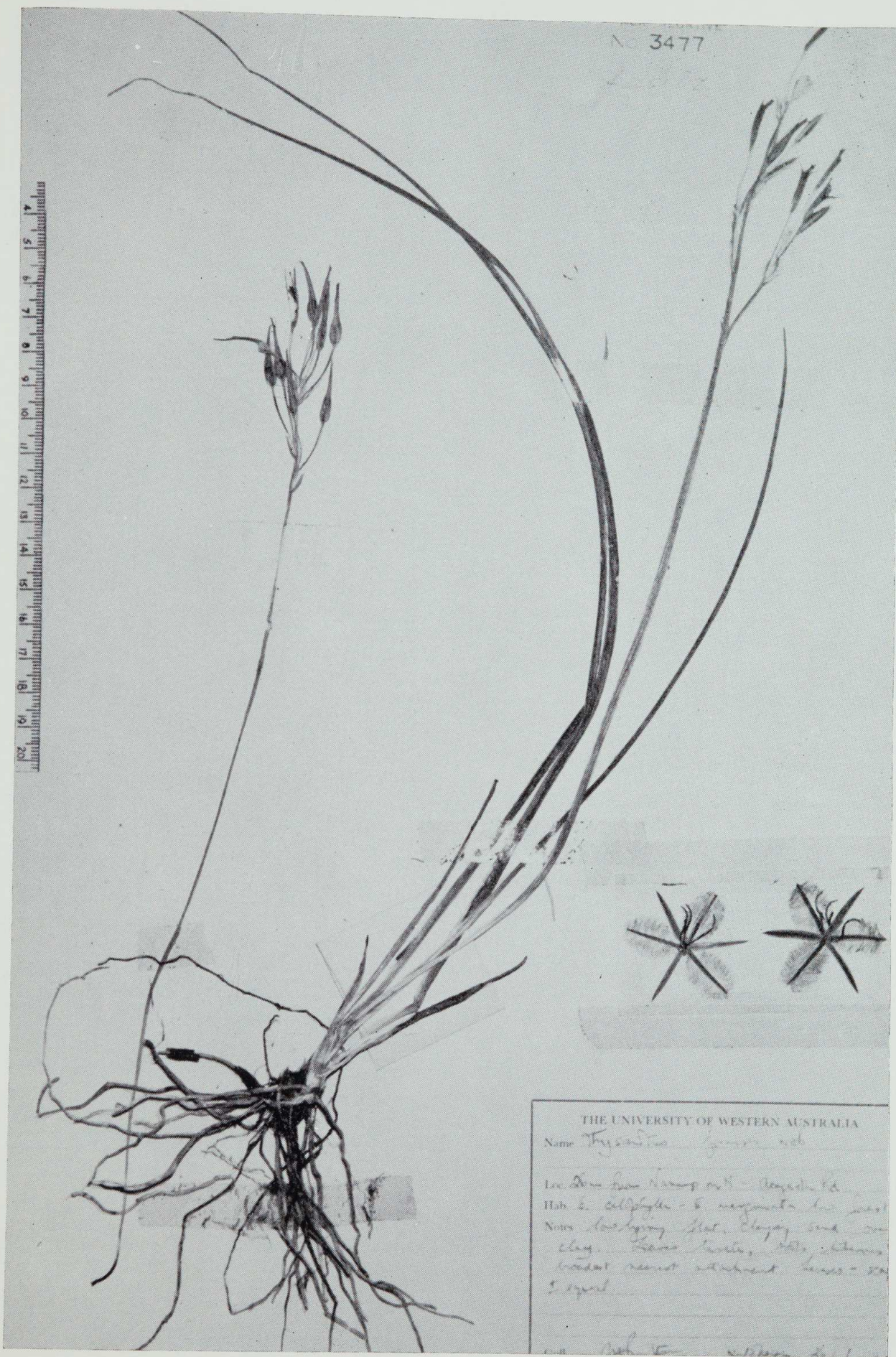


PLATE I.

*Thysanotus formosus* N. H. Brittan holotype.

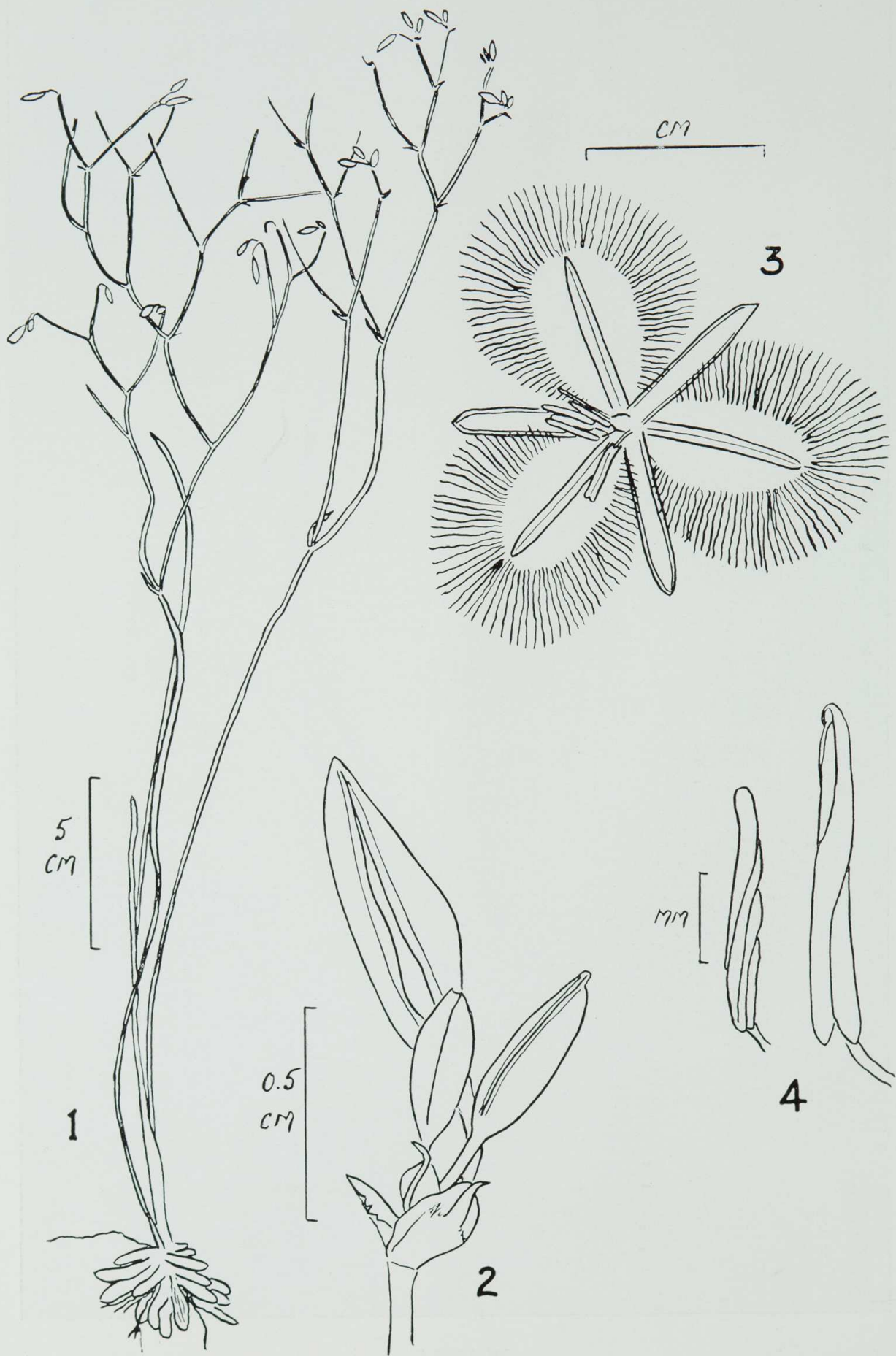
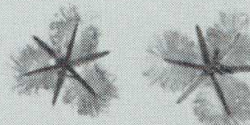
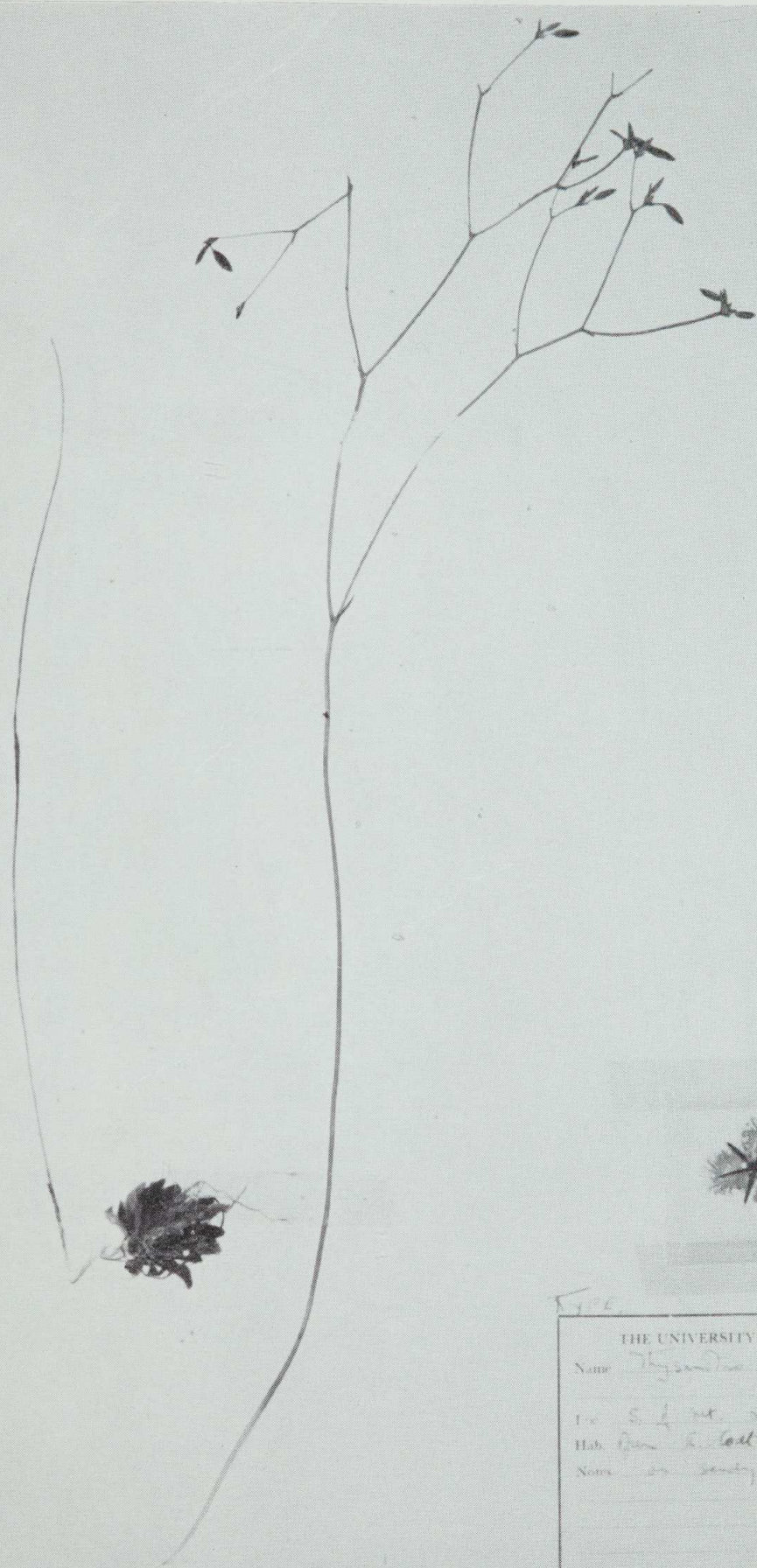


Fig. 2.—*Thysanotus vernalis* N. H. Brittan holotype.  
 1.—Whole plant. 2.—Detail of umbel. 3.—Flower. 4.—Detail of stamens.

NO 3480

Britton



TYPE

THE UNIVERSITY OF WESTERN AUSTRALIA

Name *Thysanotus vernalis* sp. nov.

Loc. S. of Mt. Lesueur.

Hab. Open s. tall m. s. alpine.

Note on sandy bank

coll. Britton x 5/27

PLATE II.

*Thysanotus vernalis* N. H. Britton syntype.



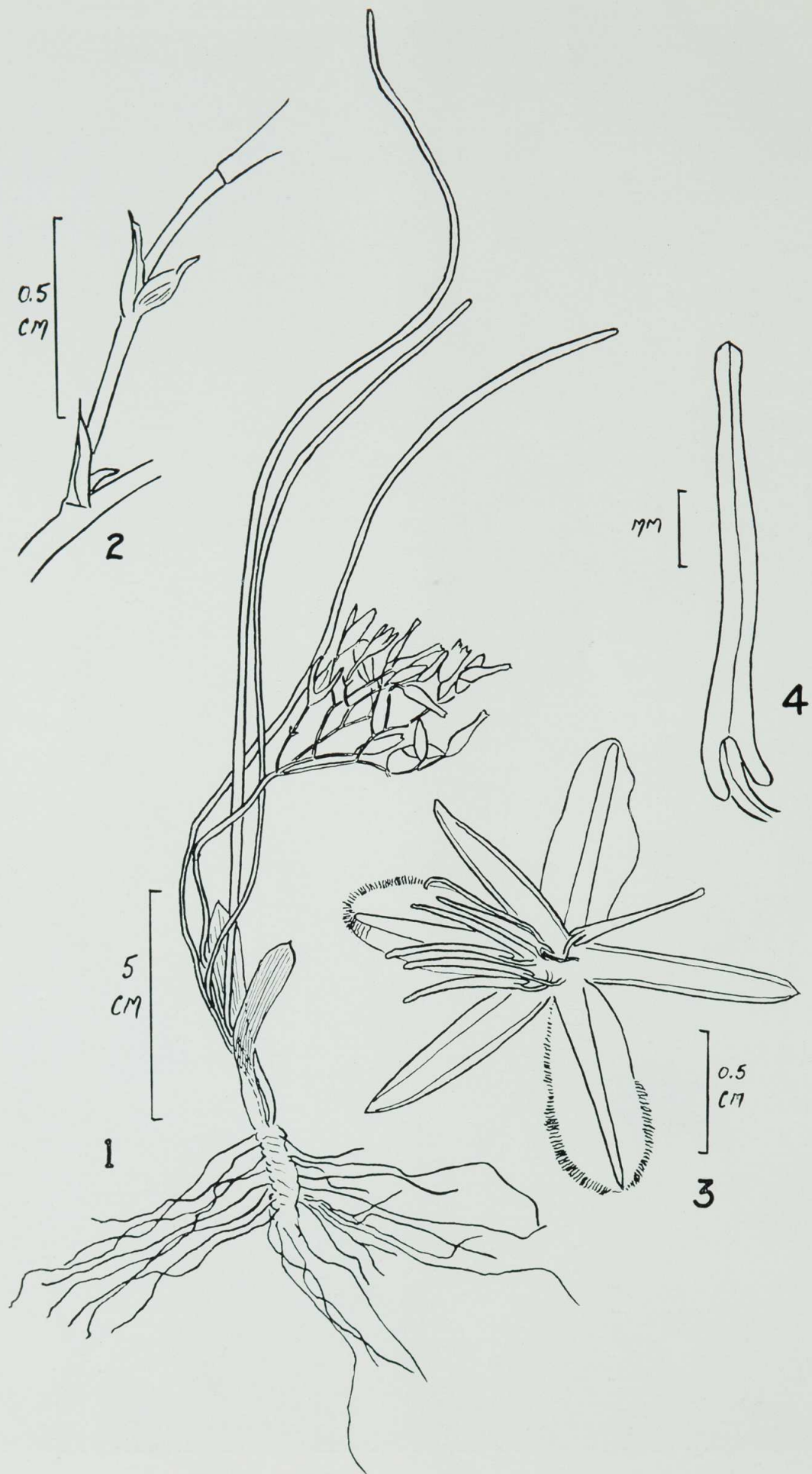
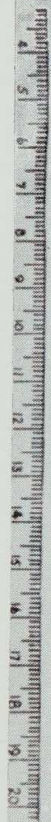


Fig. 3.—*Thysanotus rectantherus* N. H. Brittan holotype.  
 1.—Whole plant. 2.—Portion of inflorescence. 3.—Flower. 4.—Detail of stamen.

3481



TYPE

THE UNIVERSITY OF WESTERN AUSTRALIA

Name *Thysanotus rectantherus* Britton

Loc. *Little River, Victoria*

Habit. *open grassy field*

Notes *collected by Britton*

PLATE III.

*Thysanotus rectantherus* N. H. Brittan holotype.



Fig. 4.—*Thysanotus pseudojunceus* N. H. Brittan holotype.

1.—Part of whole plant. 2.—Detail of stem node. 3.—Detail of umbel. 4.—Flower. 5.—Detail of stamens.

3-82

4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20



THE UNIVERSITY OF WESTERN AUSTRALIA

Name *Thysanotus pseudojunceus* sp. nov.  
 Loc. In the sandstone hills (H. H. Britton)  
 Hab. South coast of Western Australia  
 No. 56/3  
 Date 1932  
 Collector H. H. Britton  
 Coll. No. 56/3

PLATE IV.

*Thysanotus pseudojunceus* N. H. Britton holotype.

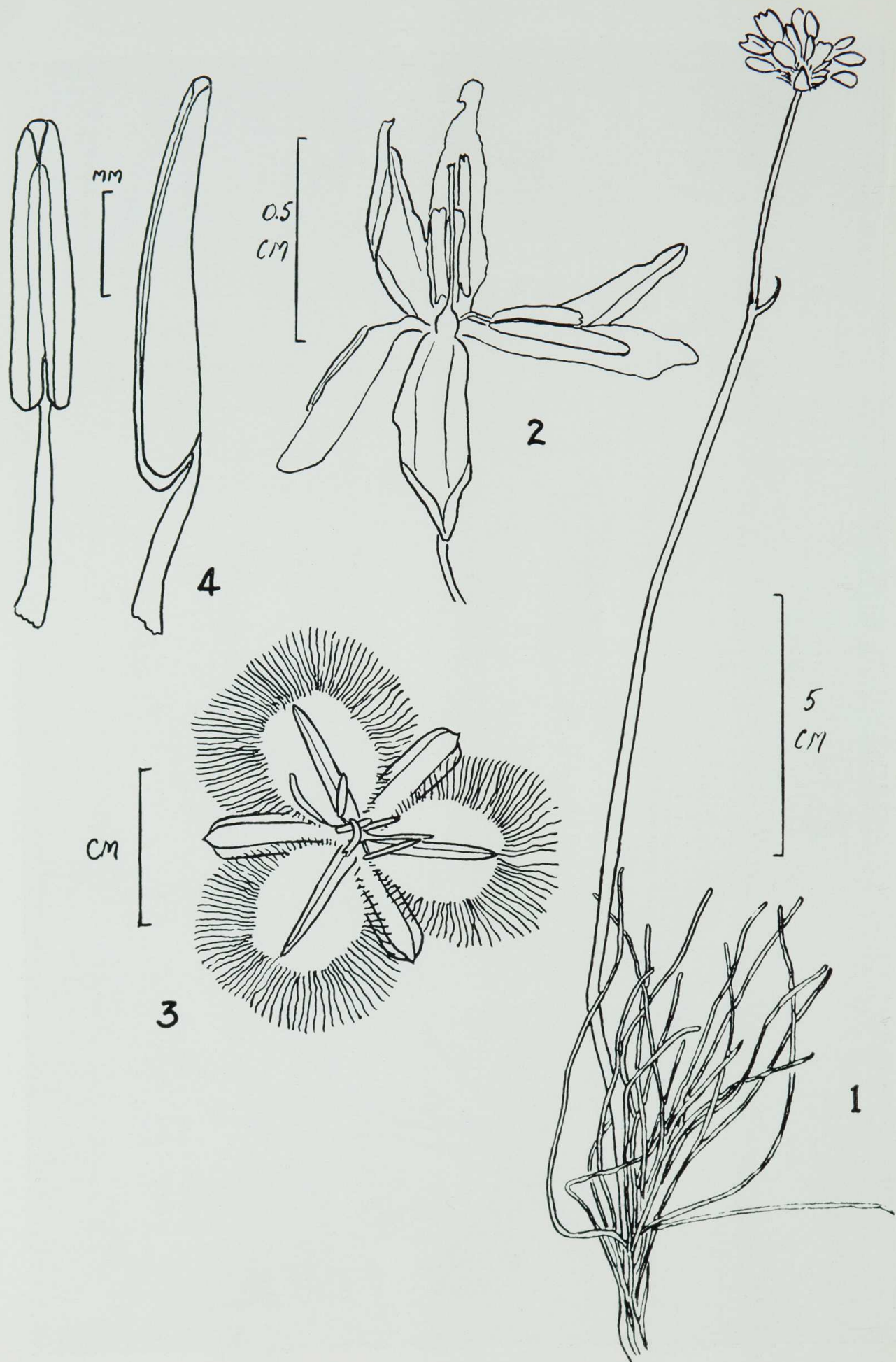


Fig. 5.—*Thysanotus brevifolius* N. H. Brittan.  
 1.—Whole plant from collection "Moist valleys, Stirling R." F. Mueller (MEL). 2.—Flower from collection "Source of Blackwood River" Cronin (MEL). 3.—Flower from N. H. Brittan 58/32-4 holotype. 4.—Detail of stamens from N. H. Brittan 58/32-4 holotype.

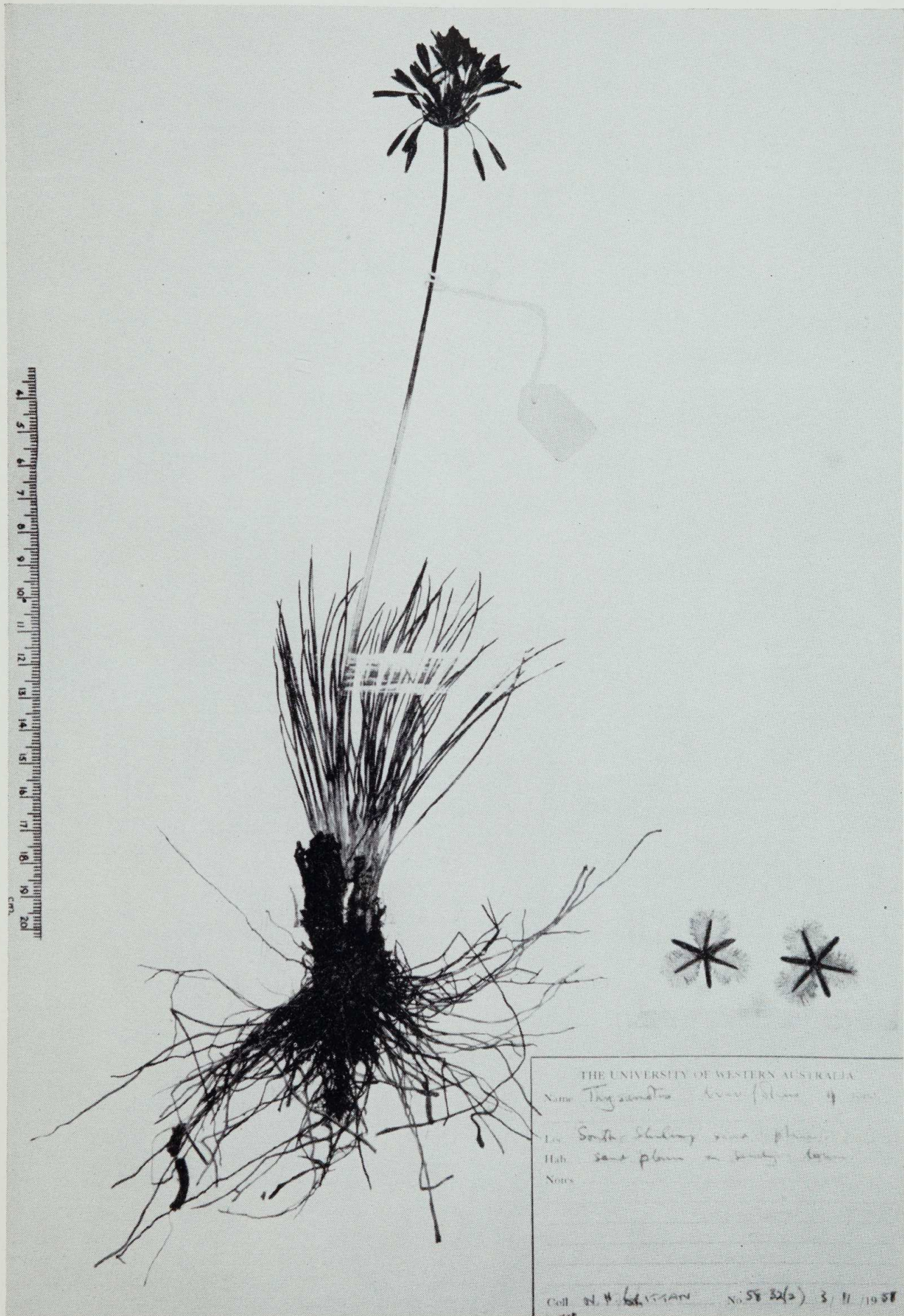


PLATE V.

*Thysanotus brevifolius* N. H. Britton syntype.

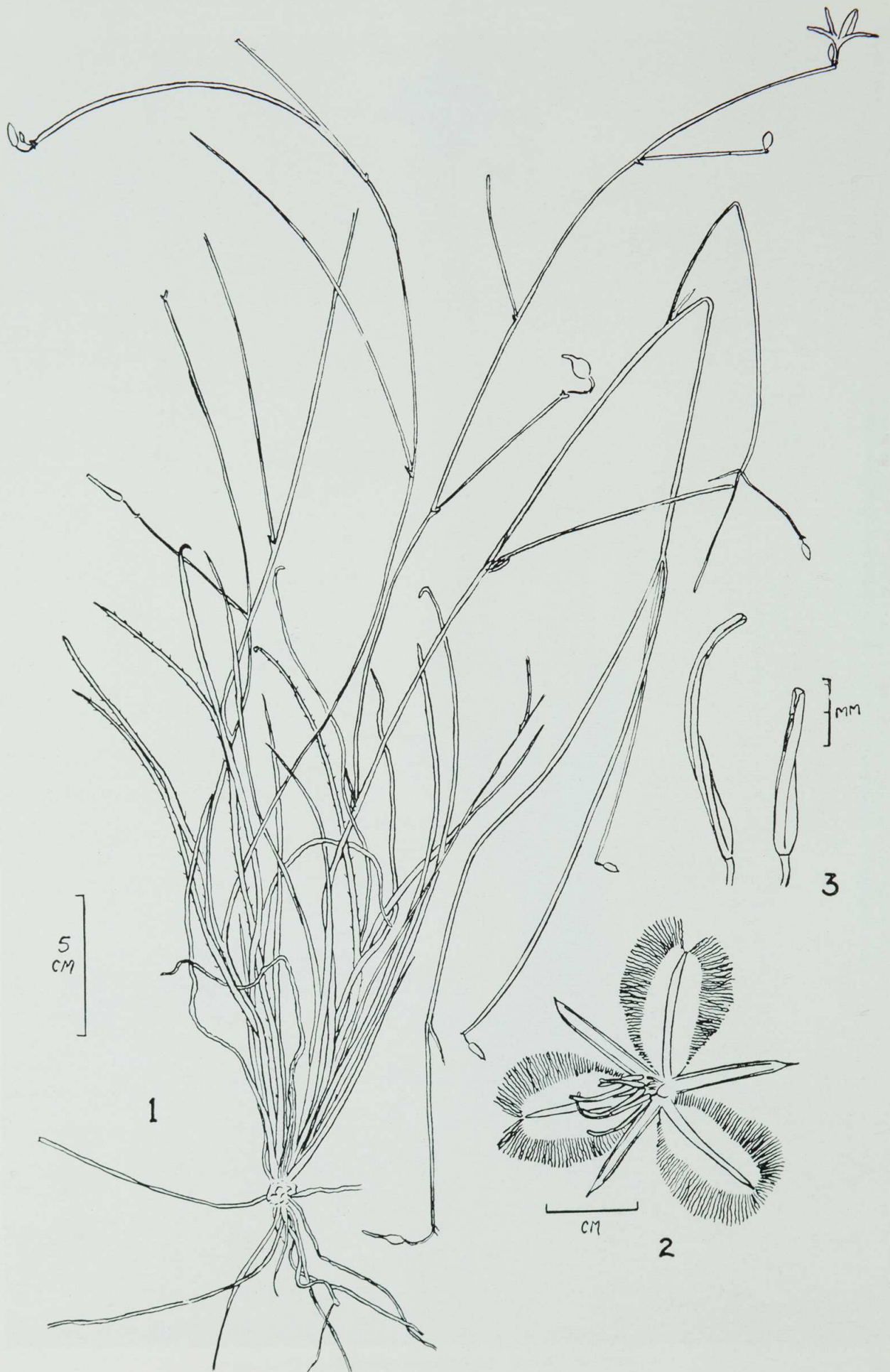


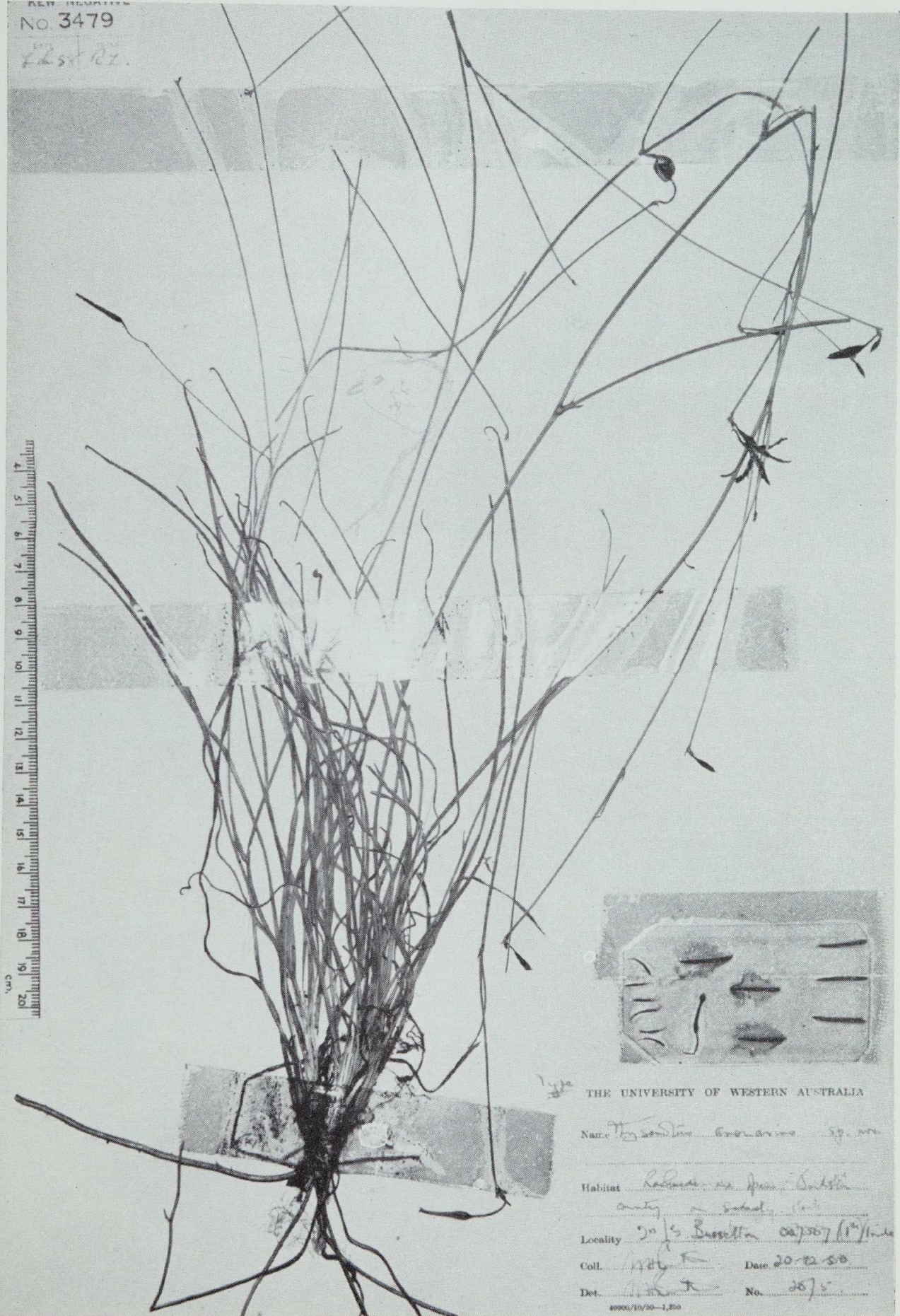
Fig. 6.—*Thysanotus arenarius* N. H. Brittan.

1.—Whole plant from N. H. Brittan 20/5 holotype. 2.—Flower from N. H. Brittan 55/36 syntype. 3.—Detail of stamens from N. H. Brittan 55/36 syntype.

NEW ZEALAND  
No. 3479

F. L. S. R. Z.

17  
16  
15  
14  
13  
12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
cm.



THE UNIVERSITY OF WESTERN AUSTRALIA  
Name: *Thysanotus arenarius* sp. nov.  
Habitat: *Roadside on open bank*  
Locality: *20/5 Bussellton 007507 (1<sup>st</sup>)/1/4*  
Coll. *N. H. Brittan* Date *20.12.50*  
Det. *N. H. Brittan* No. *2575*  
4990/10/50-1,250

PLATE VI

*Thysanotus arenarius* N. H. Brittan holotype.



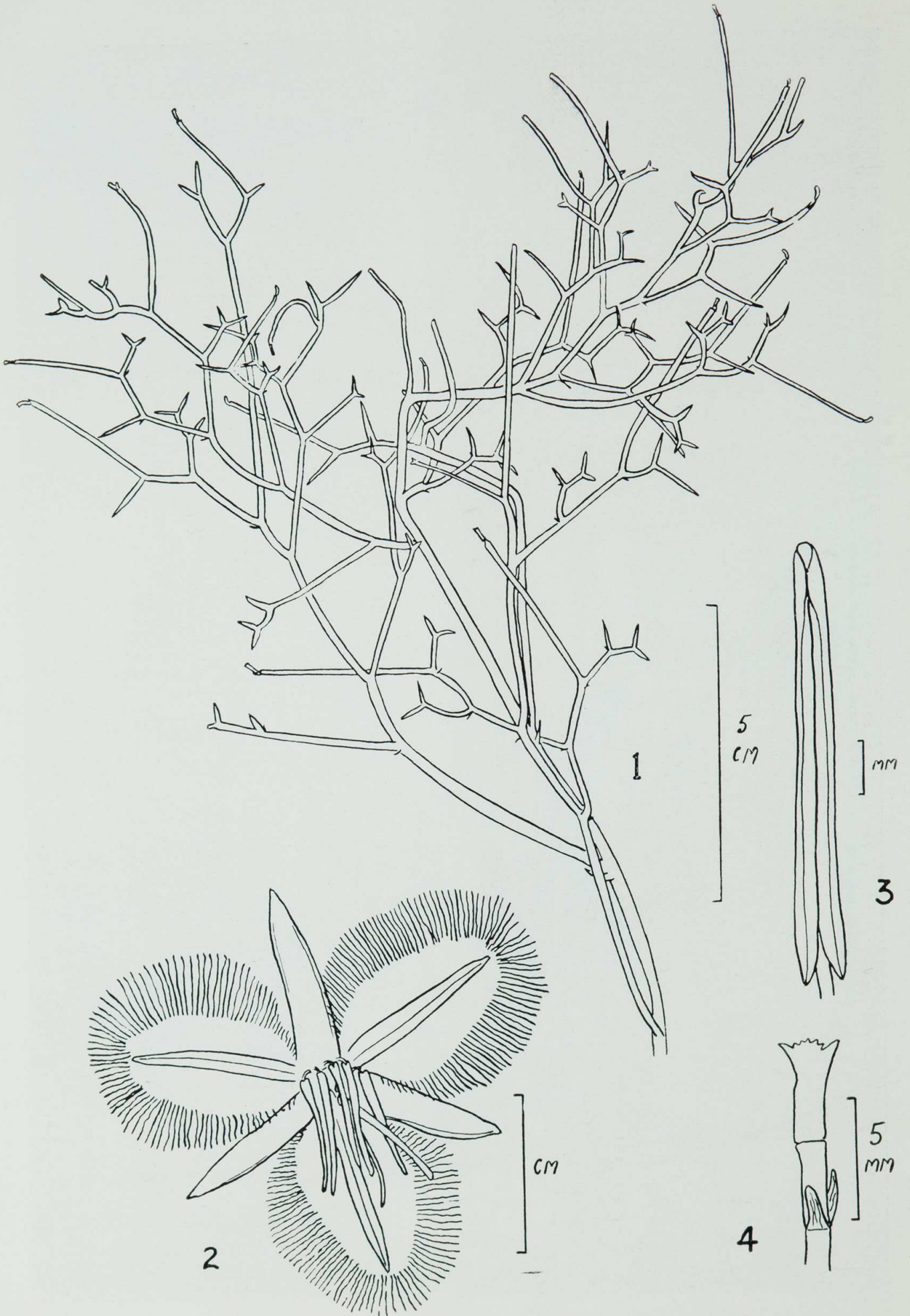


Fig. 7.—*Thysanotus spiniger* N. H. Brittan.

1.—Part of whole plant, N. H. Brittan 55/13. 2.—Flower N. H. Brittan 58/39 holotype. 3.—Detail of stamen N. H. Brittan 58/39 holotype. 4.—Detail of pedicel and bracts N. H. Brittan 58/39 holotype.

NO 5485

Label 22



UNIVERSITY OF WESTERN AUSTRALIA

Name *Thysanotus spiniger* sp. nov.

Habitat sand plain pt. S.S.

Locality Bell R. dist 35 327512519.

Coll. 18/5/52 Date 24 9 52

Det. M. B. F. No. 52/39

42540/12/51-5200 (1952)

PLATE VII

*Thysanotus spiniger* N. H. Brittan holotype.

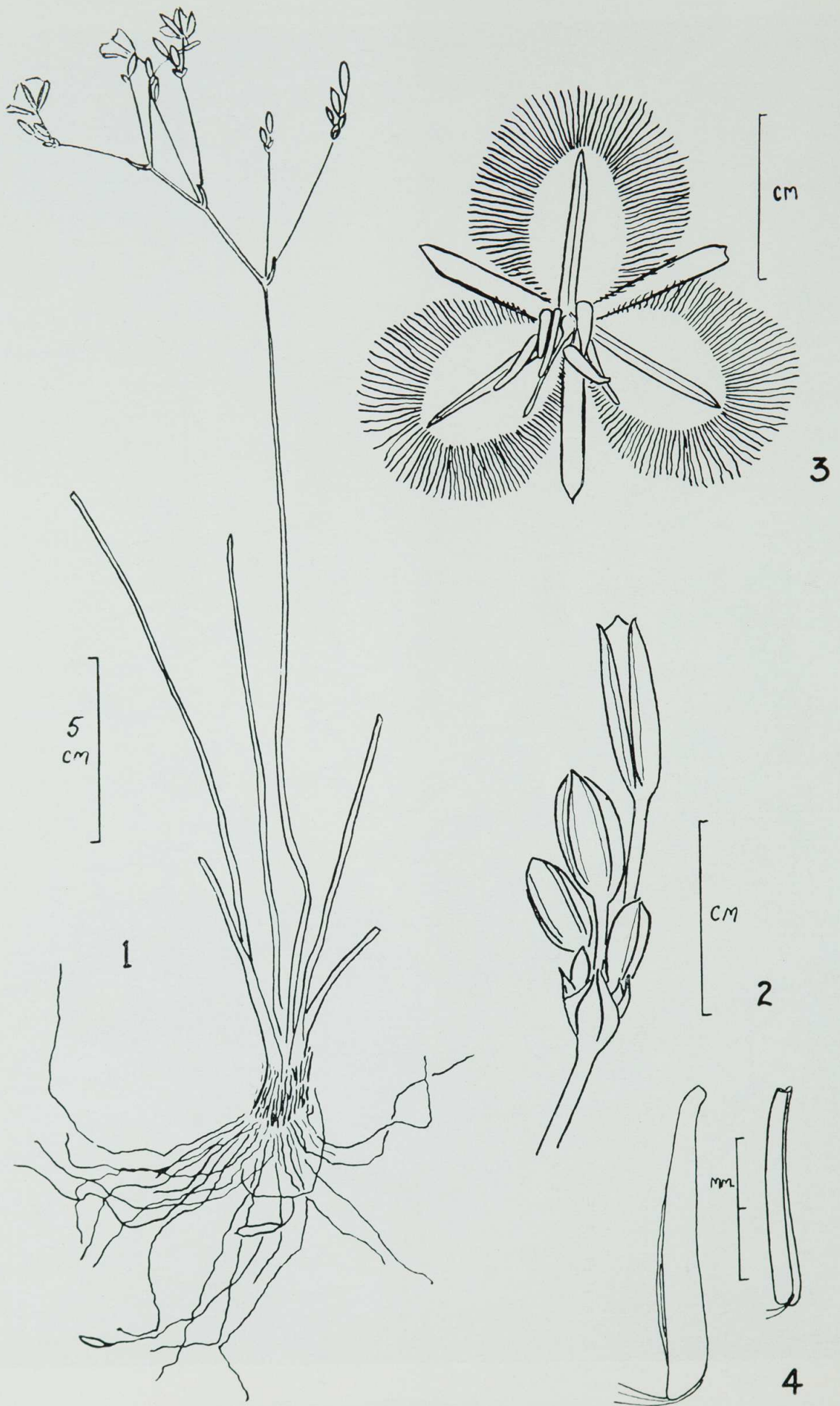


Fig. 8.—*Thysanotus cymosus* N. H. Brittan holotype.  
 1.—Whole plant. 2.—Detail of umbel. 3.—Flower. 4.—Detail of stamens.

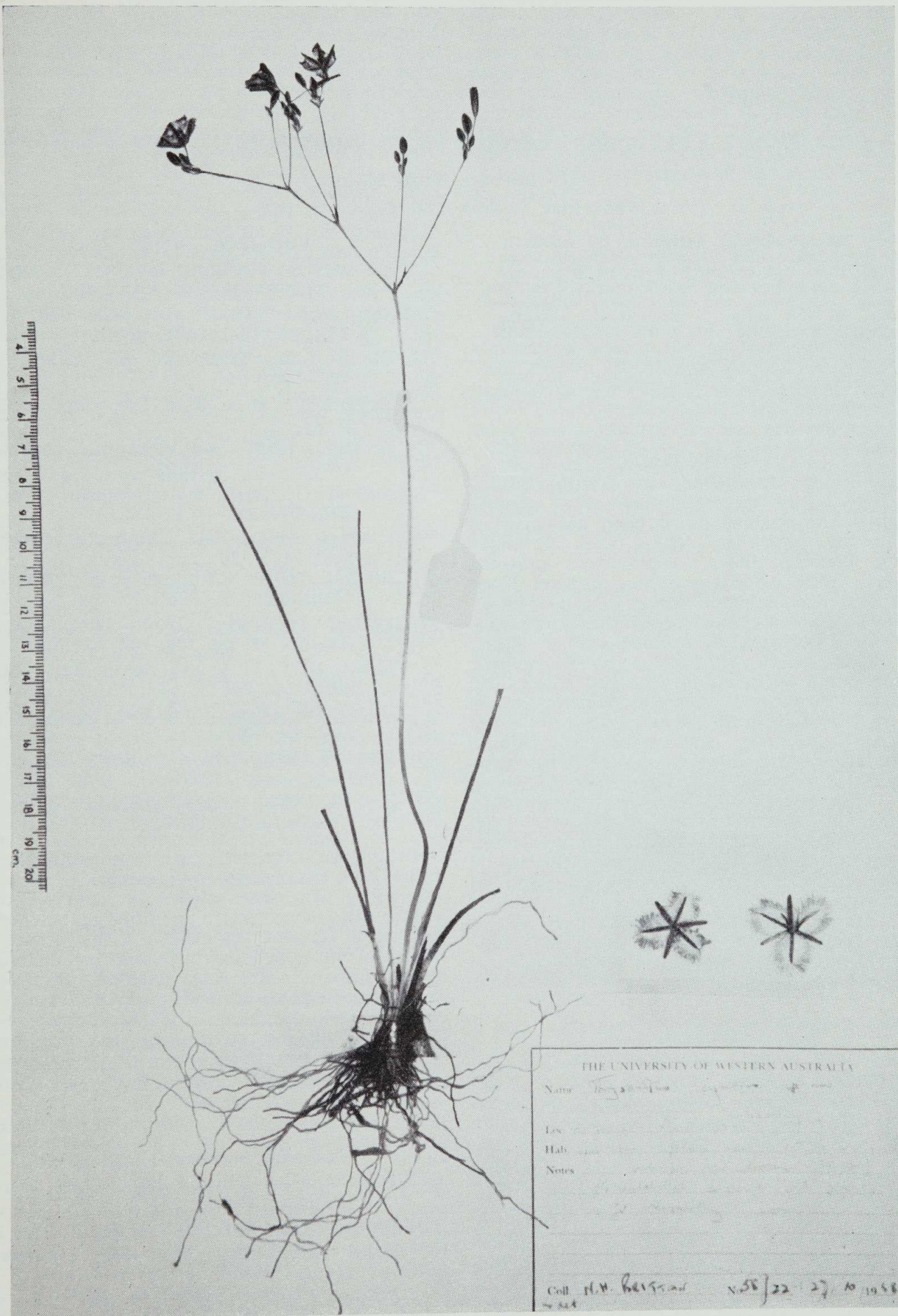


PLATE VIII

*Thysanotus cymosus* N. H. Brittan holotype.